

**Notice of Allowability**

Application No.

10/655,352

Applicant(s)

KOYANAGI, YUKIO

Examiner

Khai M. Nguyen

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/1/2006.
2. ☒ The allowed claim(s) is/are 3,4;6,7,9-23,26-46,48,50-64 and 66-106.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

***Detailed Action***

1. Claims 1-2, 5, 8, 24-25, 47, 49, 65, and 107 have been cancelled.

***Allowable Subject Matter***

2. Claims 3-4, 6-7, 9-23, 26-46, 48, 50-64, and 66-106 are allowed.

The following is an examiner's statement of reasons for allowance:

For claims **3-4**, the references of record neither reveal nor render obvious the recited limitations including the first, second, and third multiplying and adding circuits, wherein the third multiplying and adding circuit adds output data from the first multiplying and adding circuit, output data from the second multiplying and adding circuit, and then multiplying the added data by  $1/16$ .

For claims **6-7**, the references of record neither reveal nor render obvious the recited limitations including the multiplying circuit, the first, second, and third multiplying and adding circuits, wherein the third multiplying and adding circuit adds output data from the first multiplying and adding circuit, output data from the second multiplying and adding circuit, output data from the multiplying circuit, and then multiplying the added data by  $1/32$ .

For claims **9-14, 42, 48, 66-69, 91-92, and 101**, the references of record neither reveal nor render obvious the recited limitations including the sampling point detecting means and the compression data producing means represented in claim 9.

For claims **15-18, 43, 70-71, 73, 93-94, and 96**, the references of record neither reveal nor render obvious the recited limitations including the replacing means for replacing sampling data with zero data represented in claim 15.

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For claims **19-21, 44, 72, 74, 95, and 97**, the references of record neither reveal nor render obvious the recited limitations including the rounding means for rounding a lower-order bit of the produced thinned-out data represented in claim 19.

For claims **22, 45, 75, and 98**, the references of record neither reveal nor render obvious the recited limitations including the replacing means for replacing sampling data with zero data and rounding means for performing a rounding operation on the sampling data.

For claims **23, 46, 76, and 99**, the references of record neither reveal nor render obvious the recited limitations including the rounding means for performing a rounding operation and zero compression means for performing a zero compression process with respect to the sampling data outputted from the rounding means.

For claims **26-29**, the references of record neither reveal nor render obvious the recited combinations including the step of performing weighted addition with respect to the inputted sampling data, wherein the weighted addition being performed on sampling data on a target sampling point and sampling data on several sampling points around the target sampling point.

For claims **30-32 and 81-83**, the references of record neither reveal nor render obvious the recited combinations including the step of determining a sampling point using the produced thinned-out data, in which a sample point, where a difference value between each data value on a straight line connecting two thinned-out data and a thinned-out data value on the sampling point as that of the data value on the straight line is equal to or smaller than a predetermined value, is detected as the sampling point.

For claims **33-36, 84-85, and 87**, the references of record neither reveal nor render obvious the recited combinations including steps of replacing sampling data with zero data and performing weighted addition with respect to the successive sampling data subjected to the data replacement process.

For claims **37-39, 86, and 88**, the references of record neither reveal nor render obvious the recited combinations including steps of performing weighted addition with respect to the sampling data successively inputted as a target compression and rounding a lower-order bit of the thinned-out data produced by the weighted addition.

For claims **40 and 89**, the references of record neither reveal nor render obvious the recited combinations including steps of rounding a lower-order bit of the sampling data subjected to the data replacement process and performing a zero compression process with respect to the sampling data subjected to the rounding operation.

For claims **41 and 90**, the references of record neither reveal nor render obvious the recited combinations including steps of rounding a lower-order bit of the discrete sampling data successively inputted and performing a zero compressing process with respect to the sampling data subjected to the rounding operation.

For claims **50-64**, the references of record neither reveal nor render obvious the recited combinations including delay circuits of several stages for receiving discrete thinned out data produced by the compression device, each of the delay circuits delaying the received thinned out data in sequence, and the multiplying and adding circuit for performing weighted addition on data outputted from each of the delay circuits.

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For claims **77-80, 100, and 102**, the references of record neither reveal nor render obvious the recited combinations including the step of performing an interpolation process with respect to the thinned out data to produce interpolation data for the thinned out data, and weighted addition is performed on thinned out data on a target sampling point and thinned out data on several sampling points around the target sampling point.

And for claims **103-106**, the references of record neither reveal nor render obvious the recited combinations including the decompression part that coupled to the compression part for receiving the thinned-out data and performing a decompression process on the thinned-out data.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571-272-1809. The examiner can normally be reached on 9:00 - 5:30 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford (Rex) Barnie can be reached on 571-272-7492. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Khai M. Nguyen' with a stylized flourish at the end.

Khai M. Nguyen  
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571-272-1809